WHAT IS CLAIMED IS:

1. A system of section cutting and analysis of a computer model comprising:

a computer system, wherein said computer system includes a memory, a processor, a user input device and a display device;

a computer generated model of a structural member stored in the memory of the computer system;

a user locating at least a first cutting plane and a last cutting plane on the computer model using the user input device, wherein the first and last cutting planes define a cutting path, and the computer model is cut into at least one section along the cutting path;

said computer system maintaining the section in the memory;

said computer system using a computer aided engineering (CAE) analysis to predict a property of the section; and

the user using the input device to modify the section, if the property does not meet a predetermined criterion.

2. A system as set forth in claim 1 wherein the computer system prompts a user to input a

shell thickness if the model is a computer-aided design (CAD) model.

3. A method as set forth in claim 1 wherein the computer system prompts a user to input a material type if the model is a computer-aided design (CAD) model.

4. A method as set forth in claim 1 wherein the cutting plane is generated by the user selecting two points on the model using the input device and the computer system generates a vertical plane oriented perpendicular to a line between the points.

5. A method of section cutting and analysis of a computer model, said method comprising the steps of:

selecting a computer generated model of a structural member, wherein the computer generated model is stored in a memory of a computer system;

locating at least a first cutting plane and a last cutting plane on the computer generated model, wherein the first and last cutting planes define a cutting path;

cutting the computer generated model into at least one section along the cutting path;

maintaining the section in a memory of the computer system;

analyzing the section using a computer aided engineering (CAE) analysis;

determining if the CAE analysis of the section meets a predetermined criteria;

modifying the section if the predetermined criteria is not met; and

using the section in the design of the model if the predetermined criterion is met.

6. A method as set forth in claim 5 including the step of determining if the model is a computer aided design (CAD) model and prompting a user to input a shell thickness if the model is a CAD model.

7. A method as set forth in claim 5 including the step of determining if the model is a computer aided design (CAD) model and prompting a user to input a material type if the model is a CAD model.

8. A method as set forth in claim 5 including the step of defining an area of the model

for locating the cutting path after said step of selecting a computer model.

9. A method as set forth in claim 5 including the step of prompting a user to input a number of sections to generate, prior to said step of locating the first and last cutting planes.

10. A method as set forth in claim 5, wherein said step of locating a cutting plane includes the step of selecting two points on the model and generating a vertical plane oriented perpendicular to a line between the points.

11. A method as set forth in claim 5 wherein said step of locating a cutting plane includes the step of selecting a line on a computer aided design (CAD) model defining the cutting plane.

12. A method as set forth in claim 5 including the step determining if the model is a finite element analysis (FEA) model and simplifying the FEA model by replacing a shell element along the cutting path with a beam element.

13. A method as set forth in claim 5 wherein said step of analyzing the section includes the step of using finite element analysis to determine a geometric property of the section to assess its stiffness.

14. A method as set forth in claim 5 wherein said step of analyzing the section includes the step of using finite element analysis to determine a crush strength of the section.

15. A method of section cutting and analysis of a computer model of a structural member, said method comprising the steps of:

selecting a model of the structural member from a library of models stored in a memory of a computer system having a memory, a processor a user input device and a display device;

defining an area of the model for section cutting and analysis using the device;

locating at least a first cutting plane and a last cutting plane on the model, wherein the cutting plane is located by selecting two points on the model and generating a vertical plane oriented perpendicular to a line between the points;

defining a cutting path between the first and last cutting planes;

cutting the model into a predetermined number of sections along the cutting path;

maintaining the cut sections in the memory of the computer system;

analyzing the sections using a computer aided engineering (CAE) analysis to determine geometric properties and crush strength of the section;

determining if the CAE analysis of a selected section meets a predetermined criterion;

modifying the selected section if the predetermined criterion is not met; and

using the selected section in the design of the model if the predetermined criterion is met.

16. A method as set forth in claim 15 including the step of determining if the model is a computer aided design (CAD) model and prompting a user to input a shell thickness if the model is a CAD model.

17. A method as set forth in claim 15 including the step of determining if the model is a computer aided design (CAD) model and prompting a

user to input a material type if the model is a CAD model.

18. A method as set forth in claim 15 including the step of prompting a user to input a number of sections to cut along the cutting path.

19. A method as set forth in claim 15 wherein said step of locating a cutting plane includes the step of selecting a line on a computer aided design model defining the cutting plane.

20. A method as set forth in claim 15 including the step determining if the model is a finite element analysis (FEA) model and simplifying the FEA model by replacing a shell element along the cutting path with a beam element.